What is claimed is:

1. A fuel feed apparatus for pumping fuel received in a fuel tank, which has an opening, the fuel feed apparatus comprising:

a lid that covers the opening of the fuel tank;

a sub-tank that is received in the fuel tank and is connected to the lid;

a fuel pump that is received in the sub-tank and pumps fuel received in the fuel tank; and

a first auxiliary device that is provided to the lid and projects from the lid toward a bottom base wall of the sub-tank;

wherein:

the first auxiliary device is movable with respect to a space defined in the sub-tank in an axial direction which is generally perpendicular to a plane of the lid;

the first auxiliary device is oriented to the space, which is defined in the sub-tank, in the axial direction;

the fuel pump is eccentrically arranged in the sub-tank; and

the space is defined in the opposite side of the fuel pump with respect to a central axis of the sub-tank.

2. The fuel feed apparatus according to claim 1, further comprising:

a pump module received in the sub-tank,

wherein:

the pump module includes both the fuel pump and a fuel filter; and

the fuel filter surrounds the fuel pump.

3. The fuel feed apparatus according to claim 2, further comprising, a jet pump for transferring fuel from the fuel tank, wherein the sub-tank further includes an auxiliary chamber for receiving the jet pump.

4. The fuel feed apparatus according to claim 1, further comprising:

a second auxiliary device that is provided to the lid and projects from the lid toward a base wall of the sub-tank,

wherein the first auxiliary device and the second auxiliary device are separately arranged from each other in a circumferential direction of the lid.

5. The fuel feed apparatus according to claim 1, further comprising:

a detecting unit for detecting a fuel amount in the fuel tank,

wherein:

the sub-tank has a step section on a peripheral side of the sub-tank; and

the detecting unit is provided at the step section.

6. The fuel feed apparatus according to claim 5,

wherein, the step section is recessed in a diametric direction of the sub-tank.

7. The fuel feed apparatus according to claim 5, wherein the space is defined on the lid side with respect to the step section.

8. The fuel feed apparatus according to claim 1, further comprising:

a plurality of supporting members that are secured to the lid,

wherein:

the supporting members are axially movably connected to the sub-tank; and

the first auxiliary device is arranged between the supporting members in a circumferential direction of the lid.

9. The fuel feed apparatus according to claim 1,

wherein:

the space is defined between the fuel pump and a sidewall of the sub-tank; and

the auxiliary device is opposed the space.

10. The fuel feed apparatus according to claim 1, wherein a sidewall of the sub-tank extends on the flange side in the circumferential direction with respect to the sidewall on the base wall side.

11. The fuel feed apparatus according to claim 5, wherein at least a portion of the space overlaps with at least a portion of the step section in the axial direction.

12. A fuel feed apparatus for pumping fuel received in a fuel tank, which has an opening, the fuel feed apparatus comprising:

a lid that covers the opening of the fuel tank;

a sub-tank that is received in the fuel tank and is axially movably connected to the lid in such a manner that the lid is movable relative to the sub-tank between a first position and a second position in an axial direction, which is generally perpendicular to a plane of the lid, and the first position is further spaced apart from the sub-tank in comparison to the second position;

a fuel pump that is received in the sub-tank and pumps fuel received in the fuel tank; and

a first auxiliary device that is secured to the lid and projects from the lid toward a base wall of the sub-tank in the axial direction, wherein:

when the lid is positioned in the first position, a distal end of the first auxiliary device, which is oriented toward the base wall of the sub-tank and is distal from the lid, is out of an axial extent of the sub-tank measured in the axial direction; and

when the lid is positioned in the second position, the

distal end of the first auxiliary device is received in a space defined in the sub-tank such that the distal end of the auxiliary device is located in the axial extent of the sub-tank.

13. The fuel feed apparatus according to claim 1, wherein:

the first auxiliary device is at least partially received in a space defined in the sub-tank in the axial direction so that a distal end side of the first auxiliary device facing the base wall of the sub-tank and distal from the lid is lower than a top surface of the sub-tank.

14. A fuel feed apparatus for pumping fuel received in a fuel tank, which has an opening, the fuel feed apparatus comprising:

a lid that covers the opening of the fuel tank;

a sub-tank that is received in the fuel tank and is connected to the lid;

a fuel pump that is received in the sub-tank and pumps fuel received in the fuel tank; and

a first auxiliary device that is provided to the lid and projects from the lid toward a bottom base wall of the sub-tank;

wherein:

the first auxiliary device is movable with respect to a space defined in the sub-tank in an axial direction which is

generally perpendicular to a plane of the lid;

the first auxiliary device is oriented to the space, which is defined in the sub-tank, in the axial direction;

the sub-tank has a step section on a peripheral side of the sub-tank;

the step section is recessed in a diametric direction of the sub-tank; and

the space is at least partially non-overlapping with respect to the step section in a circumferential direction of the sub-tank.